

AMENDMENTS TO THE CLAIMS (CLEAN)

Claim 1 (three times amended). A composition comprising an alkylating reagent having a haloketone or alpha haloaldehyde functional group said alkylating reagent having its carbonyl group of the haloketone or alpha haloaldehyde functional group derivatized with a protected functional group wherein said protected functional group renders the alkylating agent, when under physiological conditions, unreactive to a nucleophilic or sulfhydryl group and reactive to a nucleophilic or sulfhydryl group, when under physiological conditions, by action of an enzyme on the protected functional group.

Claim 19 (three times amended). A kit for use in a method for detecting and determining the amount of homocysteine in a sample, comprising in a packaged combination: a first reagent comprising an alkylating reagent having a haloketone or alpha haloaldehyde functional group, the carbonyl of said haloketone or alpha haloaldehyde functional group derivatized with a protected functional group said protected functional group capable of reacting with the sulfhydryl group of homocysteine to form modified homocysteine when said protected functional group is deprotected, a second reagent comprising an activating reagent capable of deprotecting said alkylating reagent by removal of the protected functional group, and a third reagent capable of specifically binding to said modified homocysteine, each in an amount sufficient to conduct at least one assay.

Claim 32 (twice amended). A method of determining the amount of homocysteine in a sample suspected of containing said homocysteine, comprising the steps of :

(a) bringing together in an aqueous medium:

- (1) said sample,
- (2) a first reagent comprising an alkylating reagent having a haloketone or alpha haloaldehyde functional group, the carbonyl of said haloketone or alpha haloaldehyde functional group derivatized with a protected functional group capable of being activated to chemically modify the sulfhydryl groups of homocysteine to form modified homocysteine, and
- (3) a second reagent comprising an antibody capable of specifically binding to said modified homocysteine to form an immunocomplex; and
- (4) a third reagent capable of activating said protected alkylating reagent.

(b) measuring the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.

Claim 44 (twice amended). A method of determining the amount of homocysteine in a sample, wherein at least a portion of said homocysteine is in the free disulfide form, comprising the steps of:

- (a) preparing an admixture comprising:
 - (1) said sample,
 - (2) a releasing agent to release said homocysteine from the disulfide form,
 - (3) an alkylating reagent having a haloketone or alpha haloaldehyde functional group, the carbonyl of said haloketone or alpha haloaldehyde functional group derivatized with a protected functional group capable of being activated to chemically modify the sulfhydryl groups of homocysteine to form modified homocysteine, and
 - (4) an antibody capable of specifically binding to said modified homocysteine to form an immunocomplex, and
 - (5) an activating reagent capable of deprotecting said protected functional group of said alkylating reagent; and
- (b) examining said medium for the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.